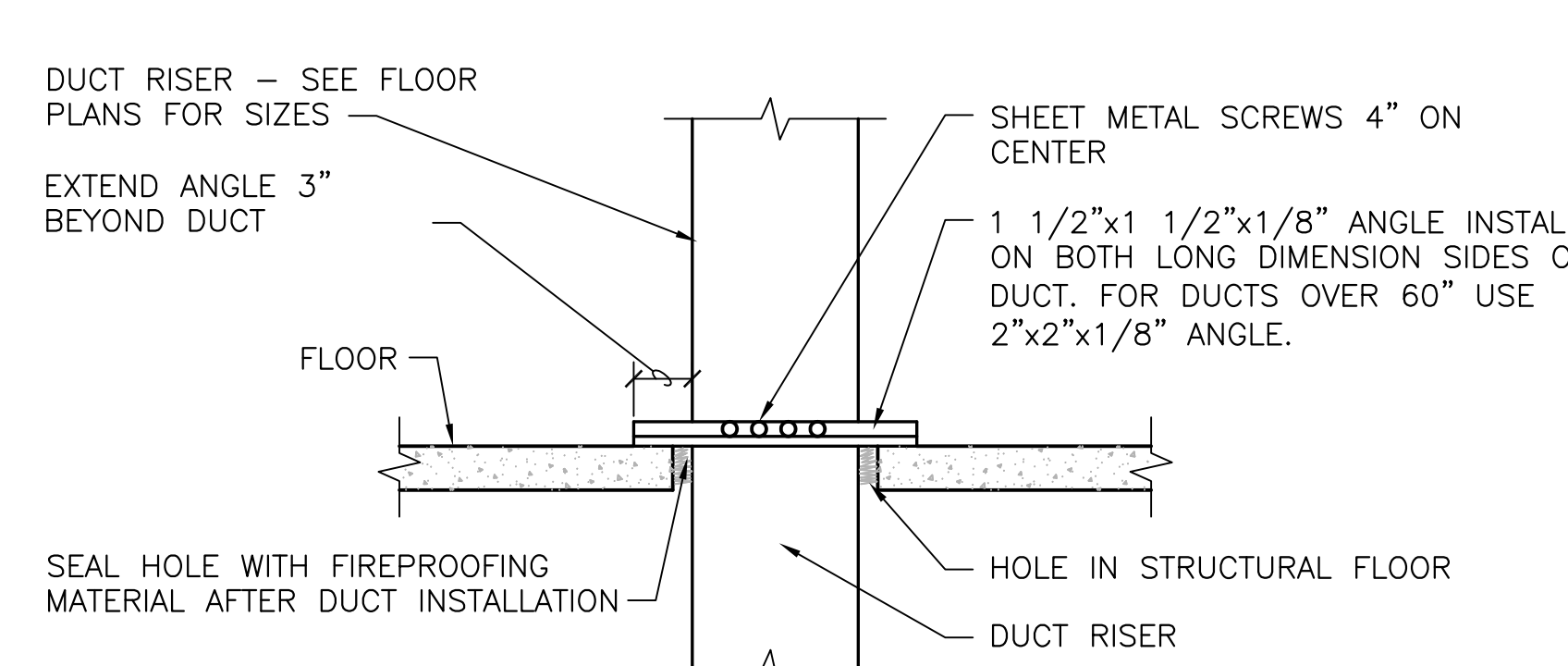
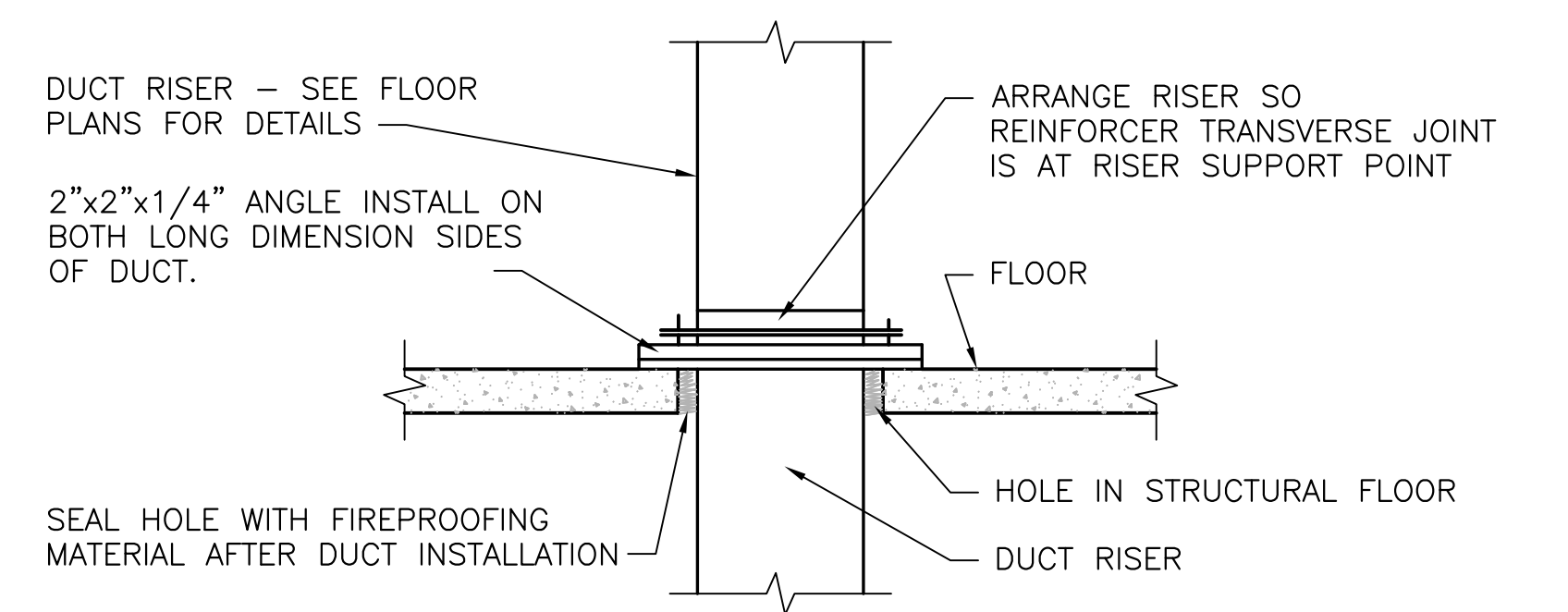


- NOTE:
- A VERTICAL DAMPER IS SHOWN. HORIZONTAL DAMPER INSTALLATION, IS SIMILAR. FOLLOW DAMPER MANUFACTURER'S INSTRUCTIONS, INCLUDING FASTENER OPTIONS AND GAGES FOR SLEEVE AND PERIMETER ANGLES. FIRE DAMPERS MUST BE INSTALLED IN THE PARTITION OR FLOOR AND NOT OUTSIDE THE PENETRATION.
 - GALVANIZED SLEEVE: GAGE NOT LESS THAN CONNECTING DUCT. FASTEN SLEEVE TO DAMPER FRAME AND TO PERIMETER ANGLES.
 - PERIMETER ANGLES: GALVANIZED STEEL, NOT LESS THAN 1 1/2"x1 1/2" , 14 GAGE, TO PROVIDE 1" MINIMUM OVERLAP OF OPENING ON ALL 4 SIDES.
 - BREAKAWAY DUCT CONNECTION: CONTRACTOR'S OPTION OF TYPES SHOWN IN SMACNA LPDS, FIG. 2-13, SEAL JOINTS.
 - ACCESS PANELS: SIZE AND LOCATION TO PERMIT SERVICING THE FUSIBLE LINK OR LINKS.
 - PROVIDE 1/8" CLEARANCE PER EACH 12" OF DUCT HEIGHT AND WIDTH. FILL OPEN SPACE WITH ROCK WOOL FIRESTOP FIBER.

SECTION THRU TYPICAL FIRE DAMPER INSTALLATION

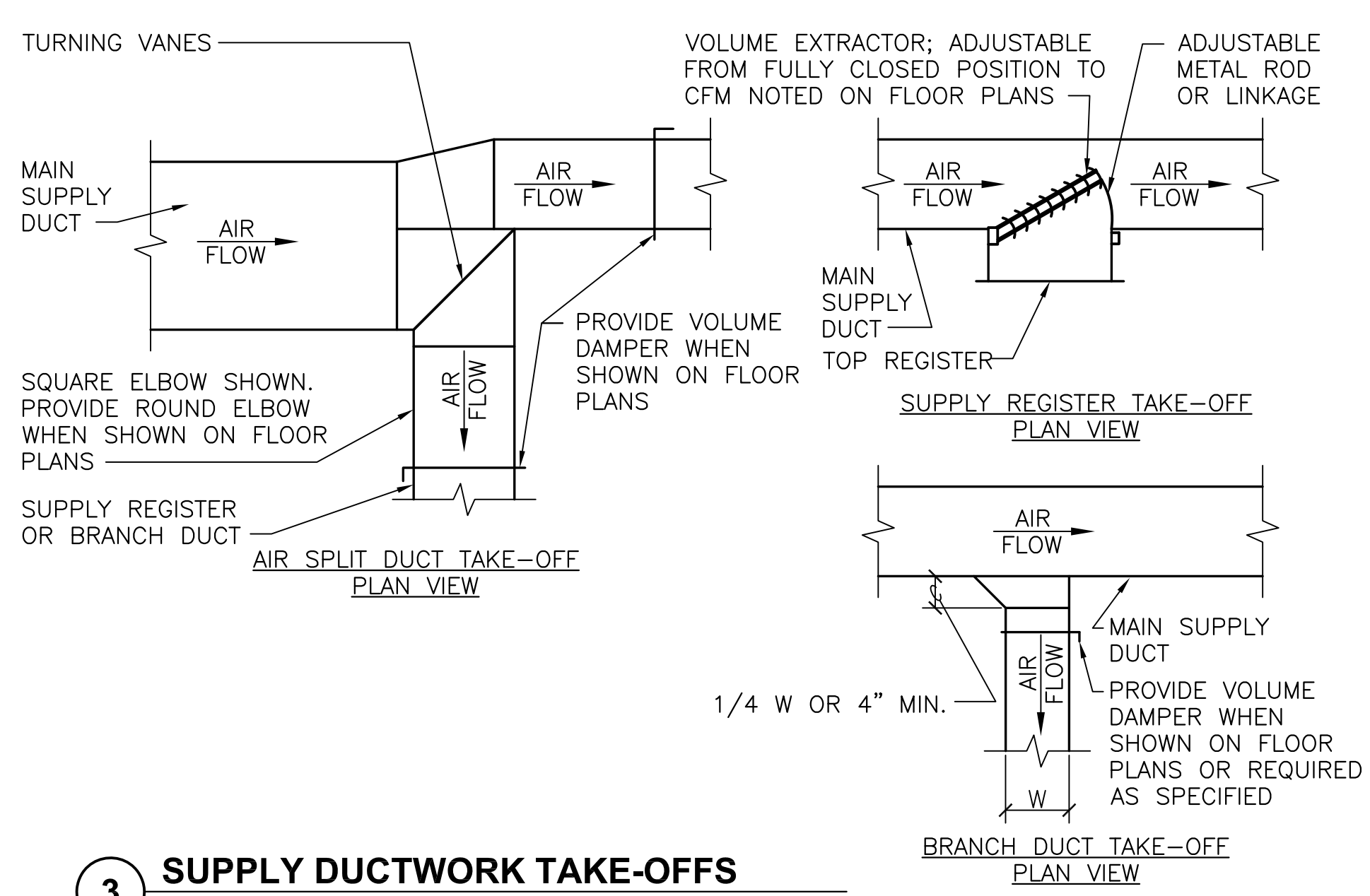


LOW PRESSURE DUCT RISER SUPPORT

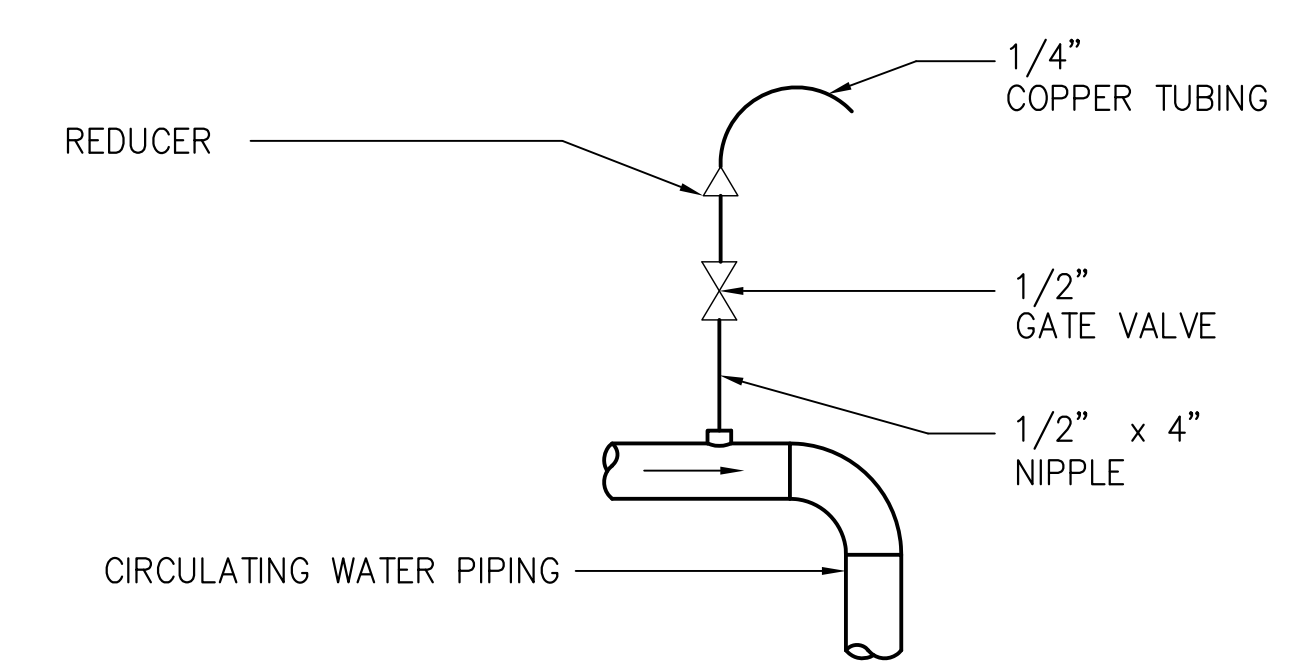


MEDIUM AND HIGH PRESSURE DUCT RISER SUPPORT

DUCT RISER SUPPORTS

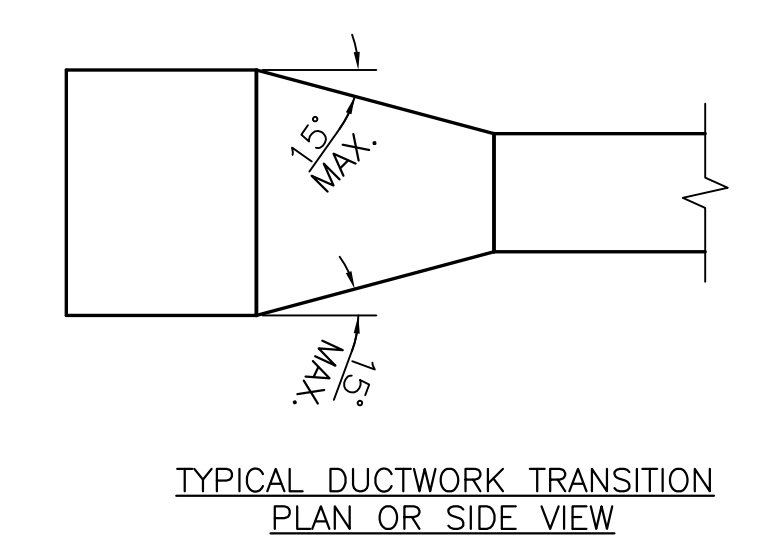


SUPPLY DUCTWORK TAKE-OFFS

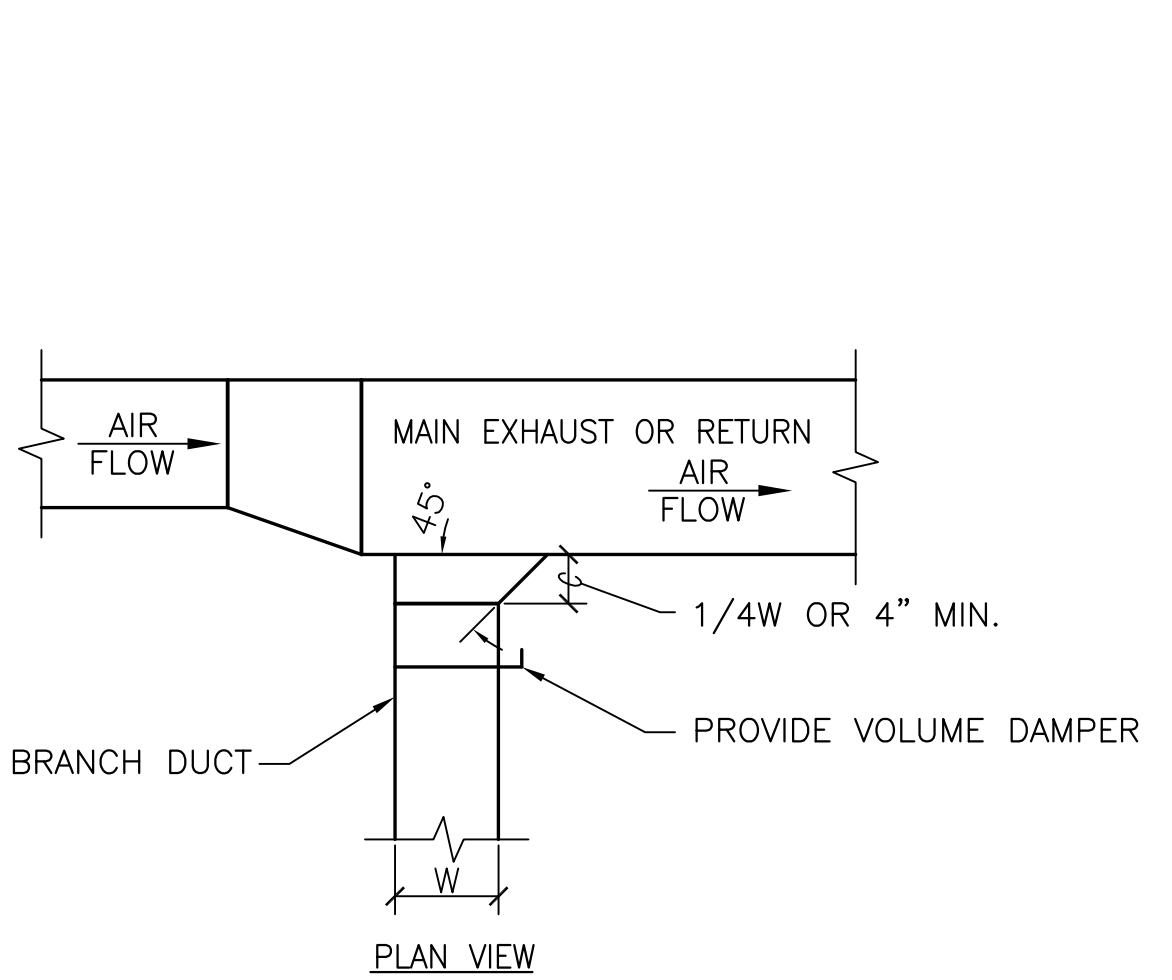


TYPICAL AIR VENT

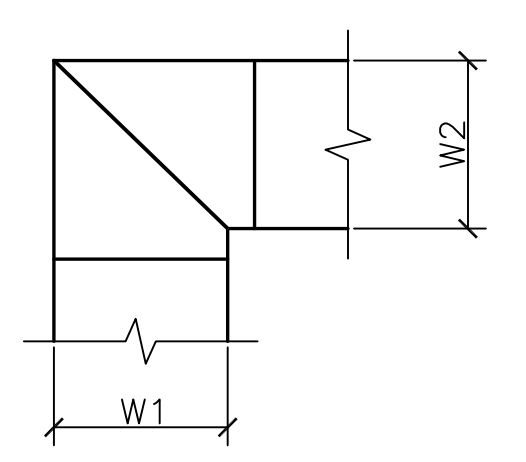
- NOTES:
- VENT ALL HIGH POINTS INDICATED ABOVE.
 - IF AUTOMATIC AIR VENTS ARE USED, PIPE DISCHARGE TO DRAIN



TYPICAL DUCTWORK TRANSITION WITH EQUIPMENT MOUNTED IN DUCT

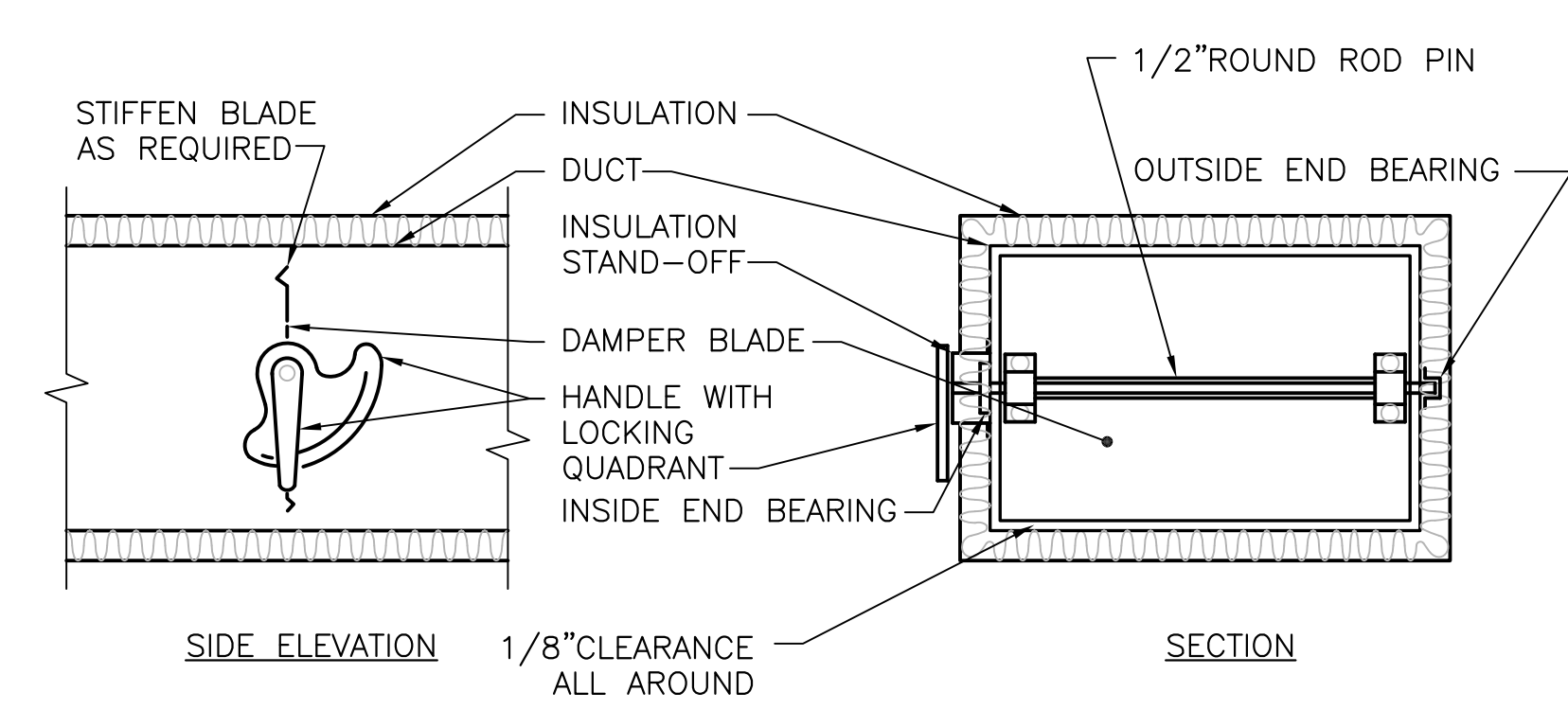


EXHAUST OR RETURN BRANCH DUCTWORK



- NOTE:
- ALL VANED ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
 - WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE VANE TYPE REGARDLESS OF W DIMENSION.
 - ALL SINGLE VANES SHALL HAVE A 2" RADIUS, 1 1/2" MAXIMUM SPACE BETWEEN VANES AND A 3/4" TRAILING EDGE.
 - WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" VANES SHALL BE DOUBLE VANE TYPE.

DUCTWORK SQUARE VANED ELBOWS

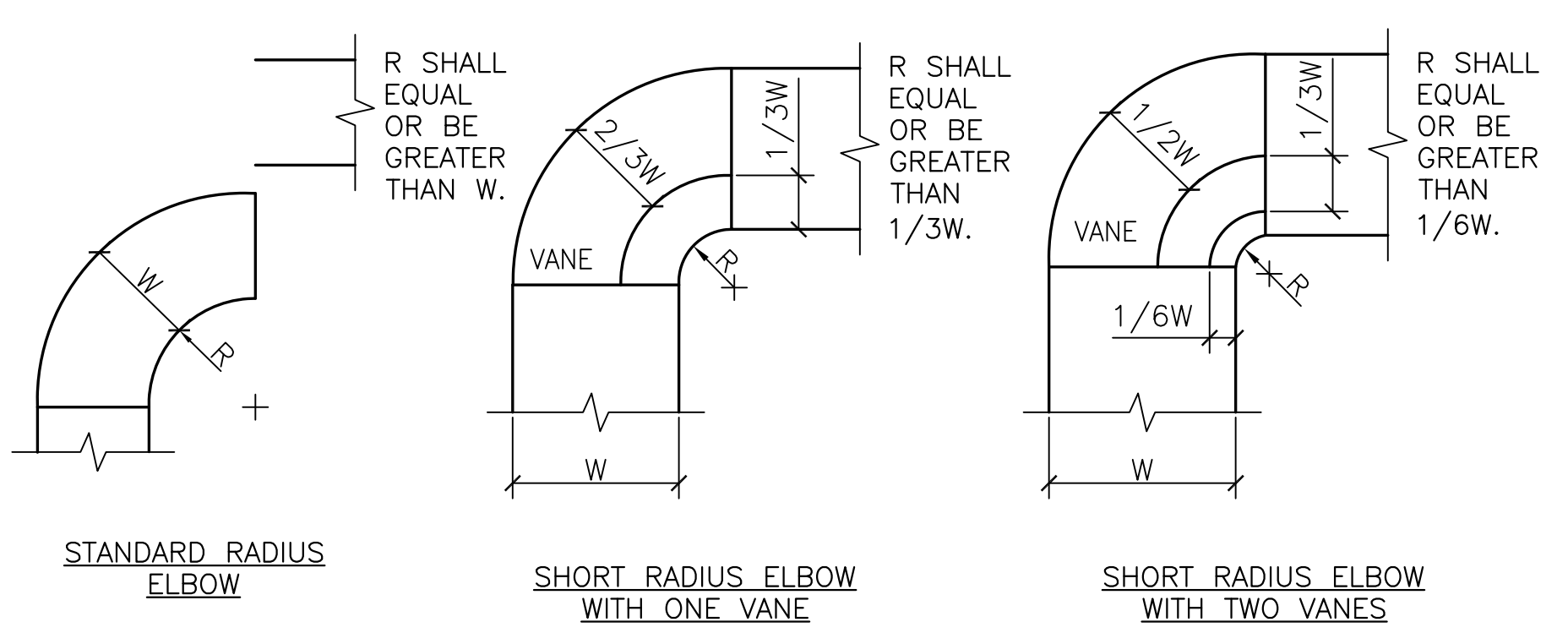


VOLUME DAMPER DETAIL

HANGER STRAPS OR RODS				
MAX DUCT Ø IN.	QUANTITY/SIZE IN.	MAX. LOAD LBS.	MAX. SPACING IN.	
26	ONE 1 x 22 GA STRAP	260	144	
36	ONE 1 x 18 GA STRAP	420	144	
50	ONE 1 x 16 GA STRAP	700	144	
60	TWO 3/8 Ø RODS	1320	144	
84	TWO 1/2 Ø RODS	2500	144	

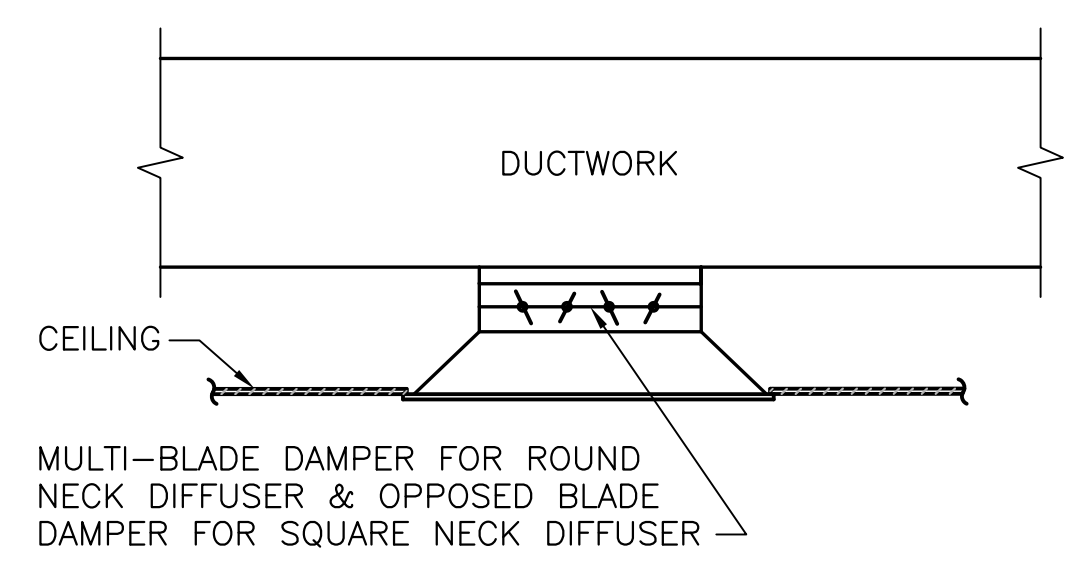
NOTE: TABULATED DATA FROM SMACNA ALLOWS FOR DUCT REINFORCING AND INSULATION, BUT NO EXTERNAL LOAD.

ROUND DUCT HANGERS

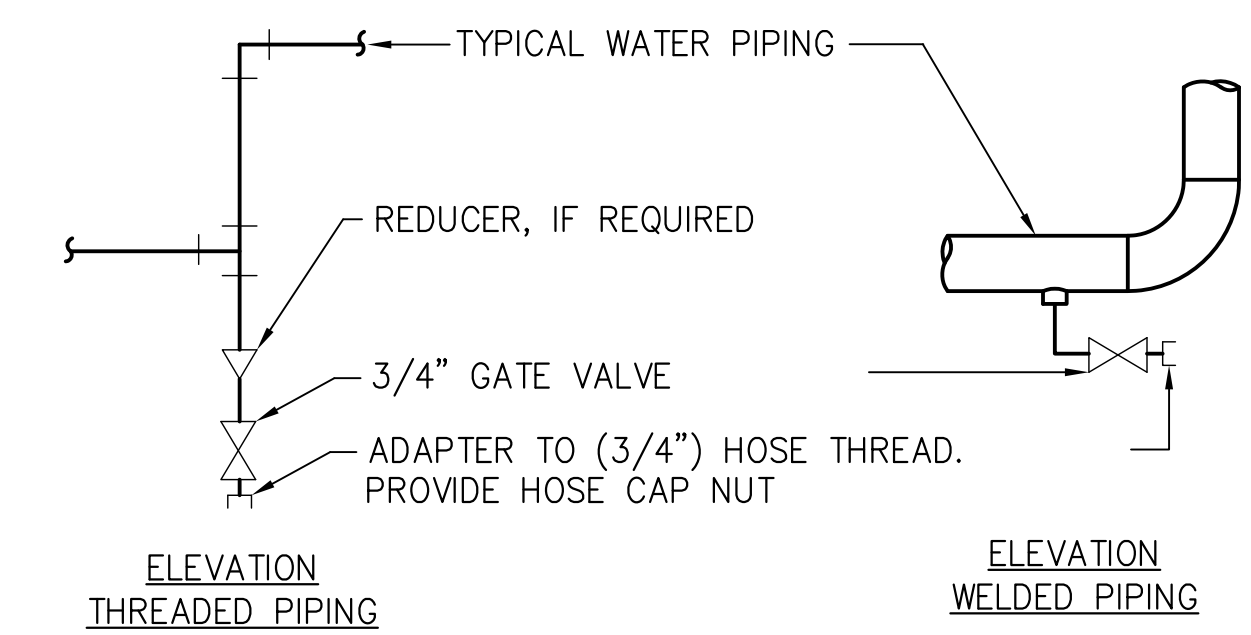


- NOTE:
- THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
 - ALL STANDARD RADIUS ELBOWS SHOWN ON FLOOR PLANS MAY BE MADE SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

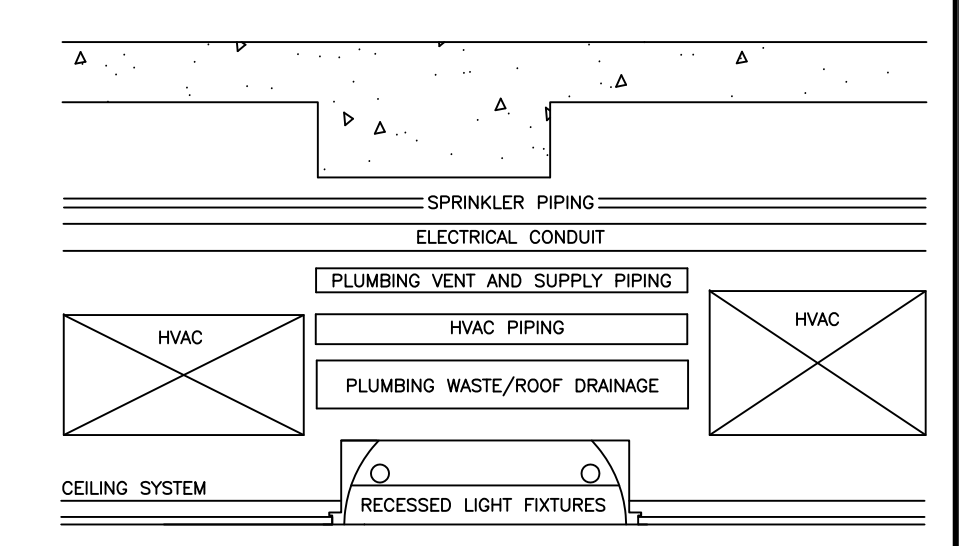
DUCTWORK RADIUS ELBOWS



CEILING DIFFUSER DUCTWORK TAKE-OFFS



TYPICAL CHILLED AND HOT WATER PIPING DRAIN VALVE CONNECTIONS



FULLY SPRINKLERED FOR CONSTRUCTION

Revisions:	KEY PLAN:	STAMP:	CONSULTANTS:	ARCHITECT/ENGINEERS:	Drawing Title MECHANICAL DETAILS	Project Title RENOVATE INPATIENT MEDICAL/SURGICAL WARD 7E	Project Number R636A8-10-001	Office of Construction and Facilities Management
					Approved: Project Director	Location Iowa City VA Medical Center	Building Number 1	Department of Veterans Affairs
						Date 07/07/2009	Drawn MS	

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